

OVERVIEW AND GUIDE TO THE IEEE 802 LMSC

September 2004

DISCLAIMER:

This guide assembles in one place some info to make life easier for first time attendees of the LAN /MAN Standards Committee (LMSC) meeting (and also for habitual attendees). It draws on the work of other folks in the committee and acknowledges their contribution to this guide.

INTRODUCTION:

LMSC (or IEEE Project 802) develops LAN and MAN standards, mainly for the lowest 2 layers of the Reference Model for Open Systems Interconnection (OSI). LMSC coordinates with other national and international standards groups, with some standards now published by ISO as international standards. There is strong international participation, and some meetings are held outside the U.S.

With work ongoing on a number of standards, the overall picture can be confusing at first. The material handed out at registration, and the overview of meetings and organization in this guide, will help make some sense of the many parallel activities. At the plenary session week, be sure to attend the opening plenary meeting on Monday from 11 am to noon. The Working Group chairs and others give a status report and tell what will be happening during the rest of the session. Arrive early for the best seats - with 1500 or so attendees; the room can fill up fast!

Shortly after the opening plenary, Working Group meetings start and then continue each day through Friday, concluding with a meeting of the LMSC Executive Committee on Friday afternoon. You'll find a wide range of attendance and topics in the Working Group meetings - for instance, in the early stages of a standard there is more technical presentation and less editorial work. In between plenary sessions, work continues over the four months until the next plenary session: most Working Groups hold interim sessions and continue discussions and document editing by E-mail. The personal contacts you can make during the week will be very helpful, so take time to meet people as well as study the documents.

CONTENTS:

- PLENARY SESSIONS (registration, schedule, how to find the right room)
- HISTORY (how did we get here?)
- ORGANIZATION (who does what, WGs / SGs / TAGs, IEEE Standards Office)
- STANDARDS PROCESS (inception, liaison, consensus, ballots, & publication)
- DOCUMENTS (drafts, mail, standards, and how to get them)

PLENARY SESSIONS:

In March, July, and November of each year, all the subgroups of LMSC meet together at one location. These plenary sessions are scheduled 1-2 years ahead and are attended by about 1500 people. For information about upcoming sessions, visit the 802 web site at www.ieee802.org. You can contact the plenary session planners, via E-mail at 802info@ieee.org.

Pre-registration by credit card is offered to help reduce the wait for registration at the session.

A registration fee is collected for each person, and helps cover the cost of the session (document copies, wireless and wired LAN, Internet connection, refreshments, and Wednesday social). Pre-registration information is available at www.ieee802.org. The registration office is open 5-8pm Sunday and from 8am to 5pm Monday for registrations and information. When you register you'll be given a packet (read it carefully!) including the room schedule for the week and a list of documents and standards that can be ordered.

The overall schedule for the plenary meeting week is as follows:

- Sunday: all day: some Working Group meetings*
 5:00 pm - 8:00 pm: registration
- Monday: 8:00 am - 10:30 am: Opening Executive Committee meeting
 8:00 am - 10:30 am: some Working Group meetings*
 11:00 am - 12:00 noon: Opening Plenary meeting
 1:00 pm - 6:00 pm Working Group meetings
 6:30 pm -9:30 pm: tutorials
 8:00 am - 5:00 pm: registration
- Tuesday: 8:00 am - 6:00 pm Working Group meetings
 6:30 pm - 9:30 pm: tutorials
 8:00 am - 5:00 pm: registration
- Wednesday: 8:00 am - 12:00 noon Working Group meetings
 6:30 pm - 9:30 pm: Social Reception
 8:00 am - 5:00 pm: registration
- Thursday: 8:00 am - 6:00 pm: Working Group meetings
- Friday 8:00 am - 12:00 noon: Working Group meetings
 1:00 pm – 6:00 pm: Closing Executive Committee meeting

* these WG meetings are actually interim meetings since they're before the opening plenary

NOTE: Executive Committee meetings are open to any interested observers from 802

The evening tutorials on Monday and Tuesday are often used to publicize work on a potential new standard - the topics are listed in the material handed out at registration. The Wednesday

evening social is an opportunity to talk with people in other groups, as well as being known for free hor d'ouvres! The real work of the plenary session happens in the individual Working Group meetings, with some Working Groups split into several subgroups during part of the week. It is not possible to see what's happening in all groups - best to concentrate on one or two. Since the detailed schedules for each group may change during the week, check the bulletin board at the registration office for the latest room assignments & meetings.

HISTORY:

The first meeting of the IEEE Computer Society "Local Network Standards Committee", Project 802, was held in February of 1980. (The project number, 802, was simply the next number in the sequence being issued by the IEEE for standards projects). There was going to be one LAN standard, with speeds from 1 to 20 MHz. It was divided into media or Physical layer (PHY), Media Access Control (MAC), and Higher Level Interface (HLI). The access method was similar to that for Ethernet, as well as the bus topology. By the end of 1980, a token access method was added, and a year later there were three MACs: CSMA/CD, Token Bus, and Token Ring.

In the years since, other MAC and PHY groups have been added, and one for LAN security as well. The unifying theme has been a common upper interface to the Logical Link Control (LLC) sublayer, common data framing elements, and some commonality in media interface. The scope of work has grown to include Metropolitan Area Networks (MANs) and higher data rates have been added. An organizational change gave us the "LMSC" name and more involvement in the standards sponsorship and approval process.

ORGANIZATION:

LMSC is organized in a number of Working Groups (WGs) and Technical Advisory Groups (TAGs) as well as a Sponsor Executive Committee (SEC).

802.0 Sponsor Executive Committee

Chairman – Paul Nikolich	Email: p.nikolich@ieee.org
1 st Vice Chairman – Mat Sherman	Email: matthew.sherman@baesystems.com
2 nd Vice Chairman – Howard Frazier	Email: mailto:hofrazier@sbcglobal.net
Executive Secretary – Everett O. Rigsbee	Email: everett.o.rigsbee@boeing.com
Recording Secretary – Bob O’Hara	Email: bob@airespace.com
Treasurer – John Hawkins	Email: jhawkins@nortelnetworks.com

ACTIVE WORKING & TECHNICAL ADVISORY GROUPS

802.1	High Level Interface (HILI) Working Group Chairman - Tony Jeffree	E-mail: tony@jeffree.co.uk
802.3	CSMA/CD Working Group Chairman – Bob Grow	E-mail: bob.grow@intel.com
802.11	Wireless LAN (WLAN) Working Group Chairman - Stuart Kerry	E-mail: stuart.kerry@philips.com
802.15	Wireless Personal Area Network (WPAN) Working Group Chairman - Bob Heile	E-mail: bheile@ieee.org
802.16	Broadband Wireless Access (BBWA) Working Group Chairman - Roger Marks	E-mail: r.b.marks@ieee.org
802.17	Resilient Packet Ring (RPR) Working Group Chairman - Mike Takefman	E-mail: tak@cisco.com
802.18	Radio Regulatory Technical Advisory Group Chairman – Carl Stevenson	E-mail: carl.stevenson@ieee.org
802.19	Coexistence Technical Advisory Group Chairman – Steve Shellhammer	Email: stephen.j.shellhammer@intel.com
802.20	Mobile Wireless Access Working Group Chairman – Jerry Upton	E-mail: Jerry1upton@aol.com
802.21	Media Independent Handover Working Group Chairman – Ajay Rajkumar	E-mail: ajayrajkumar@lucent.com

HIBERNATING WORKING GROUPS (standards published, but inactive)

802.2	Logical Link Control (LLC) Working Group Chairman - David E. Carlson	E-mail: dcarlson@netlabs.net
802.5	Token Ring Working Group Chairman - Bob Love	E-mail: rdlove@ieee.org
802.12	Demand Priority Working Group Chairwoman - Pat Thaler	E-mail: pat_thaler@agilent.com

DISBANDED WORKING GROUPS (all standards withdrawn or did not publish a standard)

802.4	Token Bus Working Group Chairman - Paul Eastman	E-mail: paul@rfnetworks.com
802.6	Metropolitan Area Network (MAN) Working Group Chairman - James F. Mollenauer	E-mail: jmollenauer@technicalstrategy.com
802.7	BroadBand Technical Adv. Group (BBTAG)	
802.8	Fiber Optics Technical Adv. Group (FOTAG) Chairman - J. Paul 'Chip' Benson, Jr.	E-mail: jpbenson@lucent.com
802.9	Integrated Services LAN (ISLAN) Working Group Chairman - Dhadesugoor R. Vaman	E-mail: dvaman@megaxess.com
802.10	Standard for Interoperable LAN Security (SILS) Working Group Chairman - Kenneth G. Alonge	E-mail: alonge_ken@geologics.com
802.14	Cable-TV Based Broadband Communication Network Working Group Chairman - Robert Russell	E-mail: rrussell@knology.com

Each project approved within an existing group is assigned a letter, for example 802.1D for MAC Bridges in the High Level Interface WG. A Study Group (SG) is formed when a new area is first investigated for standardization. The SG can be within an existing WG or TAG, or it can be independent of the WGs. A new project in an existing group is developed by a Task Force, while a new independent project creates a new WG.

Membership in LMSC is by WG/TAG, with voting rights after attending two of the last four sessions. The interim sessions of a WG/TAG may be counted under some circumstances. Attendance means you must be present for at least 75% of a meeting and attend at least 75% of the meetings in a WG/TAG session. Attendance is tracked by sign-up sheets. Credit is given for attendance at only one group per plenary meeting.

The working style of each WG/TAG depends on the number of members and the subject at hand, with some topics decided informally while others are subject to letter ballots. The Chair of each group is given latitude to set the procedure for the group. In all cases, approval of a draft standard by the WG/TAG requires a letter ballot and an effort to resolve any 'No' vote.

In addition to the volunteer members of LMSC, there is a professional staff at the IEEE Standards office that supports our work and gets standards published. The IEEE Standards Board and Standards Staff are responsible for a wide range of standards activities beyond the LAN/MAN standards in LMSC. The IEEE Standards office can be contacted at (732) 562-3800 or <http://stdsbbs.ieee.org/>.

LMSC also relies on a meeting management firm (802info@ieee.org) to administer the arrangements for each meeting, including registration. They can be contacted for hotel and transportation information and meeting pre-registration.

STANDARDS PROCESS:

Each standard (or recommended practice, or guide) starts as a group of people with an interest in developing the standard. A Project Authorization Request (PAR) is normally submitted for approval within 6 months of the start of work. In LMSC, new projects require supporting material in the form of '5 criteria' to show that they meet the charter of LMSC. The draft PAR is voted on by the SEC, and then goes to the IEEE Standards Board New Standards Committee (NesCom) which recommends it for approval as an official IEEE Standards project. Part of the PAR identifies which outside standards groups there will be liaisons with, for instance ITU for some international standards. The liaisons help avoid conflicts or duplication of effort in one area.

Proposals are evaluated by the WG, and a draft standard is written and voted on by the WG. The work progresses from technical to editorial / procedural as the draft matures. When the WG reaches enough consensus on the draft standard, a WG Letter Ballot is done to release it from the WG. It is next approved by the SEC and then goes for Sponsor Letter Ballot. In the past, the sponsor group was the Technical Committee on Computer Communication, so the sponsor ballot is still referred to sometimes as a TCCC ballot, even though LMSC now is a sponsor and conducts its own Sponsor Letter Ballots.

After the Sponsor Letter Ballot has passed and 'No' votes are answered, the draft Standard is sent to the IEEE Standards Board Standards Review Committee (RevCom). Once recommended by RevCom and approved by the Standards Board, it can be published as an IEEE standard. Most draft standards in LMSC are also sent to ISO at or before the time they go to Sponsor Letter Ballot. A parallel approval path is followed in ISO JTC1/SC6 (Joint Technical Committee 1, Subcommittee 6 - responsible for LANs) that leads to publication as an ISO standard. The process from start to finish can take several years for new standards, and less for revisions or addenda.

DOCUMENTS:

The main work in LMSC sometimes appears to be generating documents, and it's certainly true that we generate a lot of text to develop a standard. In the early stages, a WG will have a number of proposals and drafts, and these will be copied to the WG for their work. You can get copies of other WG's documents via the web at www.ieee802.org.

To reduce paper use and speed the process, the WGs use E-mail and the Internet and LAN distribution for proposals, discussions, minutes, and drafts to varying extents. Check with the WG chair for whether this is available and how to use it. Also, a central LMSC web site is maintained at www.ieee802.org. This web site includes meeting information and other general info, as well as some WG areas.

Once a standard has been published, you may order it from IEEE Document Sales, (800) 678-4333 (USA only) or (732)981-0060 (voice), (732)981-9667 (fax) for the first six months after publication. After the document has been published for six months, it is available at no charge through the Get IEEE 802 program <http://standards.ieee.org/getieee802/>.

The following is being included in this overview on a trial basis, to "fill in the blanks" beyond what's covered in the rules of IEEE 802 or the Working Group. Because the 'culture' of each WG is distinct, there are exceptions and differences from the following list in each WG.

Please note that some WGs are developing their own rules, and also be aware that IEEE and the Computer Society have rules to help reach consensus on each standard (including appeals process and patent policies).

These guidelines are meant to explain what might otherwise take some trial and error to learn - please help improve them by getting your feedback to one of the WG Chairs or other SEC members.

GUIDELINES FOR IEEE 802 PARTICIPANTS

Based on the LMSC operating rules, the function of IEEE 802 Working Groups is as follows:

"The function of the Working Group is to produce a draft standard, recommended practice or guideline. These must be within the scope of the LMSC, the charter of the Working Group and an approved PAR, or a PAR under consideration by the IEEE Standards Board, as established by the Executive Committee. After the approval of the Working Group's standard, recommended practice or guideline, the function of the Working Group is to review, revise, and affirm its documents."

Within this framework, the following guidelines serve to outline the responsibilities of Working Group participants.

Observer

- Pay applicable session fees: Pay IEEE 802 Session Fee for each plenary session you attend; pay the Session Fee for each Interim session you attend.
- Sign the attendance book when and only when you will be participating in that Working Group for the majority of that session. For each session, you should sign the attendance book of no more than one WG.
- If you are aware of any patents that pertain to the work of the subcommittee you should so advise the chair.
- Initially, mostly listen. Learn about the issues and procedures of the Working Group to effectively contribute to the Working Group's progress and to gain the Working Group's respect and attention when you participate in its discussions.
- Contribute to the progress of the Working Group. Since standards are based on consensus, focus on win-win solutions when you are seeking to establish or change a Working Group position. Vote on Straw Polls during the plenary and interim meetings.

When you are on a WG E-Mail reflector:

- Read the E-Mail and keep abreast of the issues.
- Respond to the E-Mail when you have appropriate input.
- Get documents from the WG FTP site to review as appropriate.

- Review Working Group drafts out for ballot, and submit your comments on or before ballot closing date.
- Familiarize yourself with Robert's Rules of Order.
- Review the meeting minutes.
- Comment on required changes as appropriate if you have attended the last meeting

Working group Member

- Same as Observer with the following additional responsibilities:
- The Working Group members decide technical issues by vote
- Vote on Official Working group Motions
- Vote on Working group Drafts circulated for Ballot.
- Vote for Working Group officers as appropriate.
- Familiarize yourself with the "Policy and Procedure of IEEE Project 802, LAN MAN Standards Committee (LMSC)". We must follow those rules.
- Consider volunteering to host interim sessions (See the chair for details)
- Consider volunteering to serve the Working Group in additional capacities